

AMENDMENTS TO THE CLAIMS

Claims 1-25 (Cancelled)

26. (New) A semiconductor resistor formed in a semiconductor material of a first conductivity type, the resistor comprising:

a continuous doped region of a second conductivity type formed in the semiconductor material, the doped region having a first region and a spaced-apart second region, different potentials being placed on the first and second regions of the continuous doped region to cause a current to flow between the first region and the second region;

a layer of insulation that contacts the semiconductor material;

a first semiconductor structure that contacts the layer of insulation; and

a second semiconductor structure that contacts the layer of insulation, a spacing between the first and second semiconductor structures being substantially equal to a dimension of the doped region.

27. (New) The semiconductor resistor of claim 26 wherein the doped region has a length and a width.

28. (New) The semiconductor resistor of claim 27 wherein the dimension is the width of the doped region.

29. (New) The semiconductor resistor of claim 27 wherein the length of the doped region is substantially longer than the width.

30. (New) The semiconductor resistor of claim 27 wherein the doped region includes a third region of a first dopant concentration, a fourth region of a second dopant concentration, and a fifth region of a third dopant concentration, the first dopant concentration being substantially larger than the second and third

dopant concentrations, the fourth and fifth regions lying on opposite sides of and contacting the third region.

31. (New) The semiconductor resistor of claim 26 and further comprising a non-conductive region lying between the first and second semiconductor structures, and over the doped region.

32. (New) The semiconductor resistor of claim 31 and further comprising a contact structure extending through the non-conductive region that makes an electrical connection to the first region of the doped region.

33. (New) The semiconductor resistor of claim 32 wherein the contact structure includes a resistance-lowering layer, and a contact that is connected to the resistance-lowering layer.

34. (New) The semiconductor resistor of claim 33 wherein the resistance-lowering layer contacts the first region of the doped region and extends continuously to the second region of the doped region.

35. (New) The semiconductor resistor of claim 34 wherein the resistance-lowering layer includes a layer of salicide.

36. (New) The semiconductor resistor of claim 26 wherein the first and second semiconductor structures are spaced apart from each other.

37. (New) The semiconductor resistor of claim 36 wherein the first semiconductor structure includes polysilicon.

38. (New) The semiconductor resistor of claim 26 wherein the first and second semiconductor structures contact each other.

39. (New) The semiconductor resistor of claim 38 wherein the first semiconductor structure includes polysilicon.

40. (New) The semiconductor resistor of claim 26 and further comprising an isolation region formed in the semiconductor material to surround an active region and isolate the active region from laterally adjacent regions, the doped region being formed in the active region and contacting the isolation region.

41. (New) The semiconductor resistor of claim 40 wherein the first and second semiconductor structures contact the isolation region.

42. (New) The semiconductor resistor of claim 40 and further comprising:  
a non-conductive region lying over the first and second semiconductor structures; and

a contact structure extending through the non-conductive region to make an electrical connection to the first semiconductor structure.